



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,355	09/12/2003	Andrew Vaillant	16051 - 10US CC	6741
20988	7590	01/24/2006	EXAMINER	
OGILVY RENAULT LLP 1981 MCGILL COLLEGE AVENUE SUITE 1600 MONTREAL, QC H3A2Y3 CANADA			HURT, SHARON L	
			ART UNIT	PAPER NUMBER
			1648	

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/661,355	Applicant(s) VAILLANT ET AL.	
	Examiner Sharon Hurt	Art Unit 1648	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
 4a) Of the above claim(s) 5, 8, 9 and 18-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7 and 10-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/26/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of Group I claims 1-17, and HIV species in the reply filed on October 26, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 18-36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group II, III and IV there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 26, 2005.

Claims 5, and 8-9 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species. Election was made **without** traverse in the reply filed on October 26, 2005.

Claims 1-4, 6-7 and 10-17 are under consideration for examination.

Claim Rejections - 35 USC § 102 & 35 USC § 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6-7 and 10-17 are rejected under 35 U.S.C. 102(a & e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US Patent No. 6,316,190 (Rein et al.).

Claim 1 is drawn to a method of screening to identify a compound that alters binding of an oligonucleotide to at least one viral component. The method comprises contacting oligonucleotide with viral component in the presence or absence of a compound to be screened and the difference in binding is determined.

Rein discloses assays where target molecules are assessed for their ability to inhibit binding of retroviral nucleocapsid (NC) proteins to selected nucleic acids (oligonucleotides). In the assay, retroviral nucleocapsid proteins, oligonucleotides comprising a substance which binds to a retroviral nucleocapsid protein with high affinity, and a target molecule are mixed, and the inhibitory effect on nucleocapsid-oligonucleotide binding is measured. The assays are performed in parallel on a number of samples. (See paragraph number 19).

Rein discloses additional oligonucleotides which bind to NC proteins with high affinity. These oligonucleotides can be determined by routine screening assays. In the

screening assays, an oligonucleotide is screened for binding properties to nucleocapsid protein. The example oligonucleotides can be used as positive controls for comparison to an unknown nucleotide to be tested in the screening assays. (See paragraph number 44).

Claim 2 is drawn to the method of claim 1 wherein said compound is a small molecule. Rein discloses the targeted molecule binds to a retroviral nucleocapsid protein and the targeted molecule comprises an oligonucleotide and a fusion partner. The fusion partner can be atoms or molecules including, peptides, proteins, toxins, enzymes, etc. (See paragraphs number 80-81). Therefore, the test compound includes a small molecule.

Claims 3-4 are drawn to the method of claim 1 wherein at least 1,000 or 12,000 compounds are screened. It would be obvious to a person skilled in the art to screen a large number of compounds for their inhibiting effect.

Rein discloses the assays are used in a competitive or non-competitive format to determine the effect of a test compound on the binding of a retroviral nucleocapsid protein to any selected trial compound. The test compound is optionally added before or during the binding of the trial compound to the retroviral nucleocapsid protein. The effect of the test compound on trial compound binding is then determined. Typically, the effect is measured by comparison to a control assay which measures the binding of the trial compound to the retroviral nucleocapsid protein in the absence of the test compound. (See paragraph number 61).

Claims 6 and 7 are drawn to the method of claim 1, wherein said viral component is RNA, specifically HIV RNA. Rein discloses a retroviral protein species sufficient for assembly of retrovirus particles and the process includes the encapsidation of a viral RNA. (See paragraph number 4). Rein's invention describes the binding of recombinant HIV-1 nucleocapsid proteins to oligonucleotides. (See paragraph number 9).

Claims 10-17 are drawn to the method of claim 1 wherein said oligonucleotides are at least 2 – 80 nucleotides in length. Rein defines oligonucleotide as a nucleic acid of any length although typically between about 5 and about 100 nucleotides in length.

Rein teaches 5 bases are sufficient for high-affinity binding and crosslinking of short oligonucleotides by nucleocapsids. Rein compared binding to longer oligonucleotides including 28-base oligonucleotides and 28-base oligodeoxynucleotides. It would be obvious to a person skilled in the art to optimize the method by selecting oligonucleotides of different nucleotides in length to alter binding and manipulate binding affinity.


Claims 1-4, 6-7 and 10-17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over PCT WO 97/44064 (Rein et al.). Rein discloses an invention that meets the claim limitations as described above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharon Hurt whose telephone number is 571-272-3334. The examiner can normally be reached on M-F 8:00 - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Housel James can be reached on 571-272-0902. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

January 9, 2006


JAMES HOUSEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600
1/23/06